Materials Using A Radiant Heat Energy Source.'' This publication is incorporated by reference and may be inspected at any MSHA Coal Mine Safety and Health district office, or at MSHA's Office of Standards, Regulations, and Variances, 1100 Wilson Blvd., Room 2352, Arlington, Virginia 22209–3939, and at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202–741–6030, or go to: *http://www.archives.gov/federal__register/code__of__federal__regulations/ibr__locations.html*. In addition, copies of the document can be purchased from the American Society for Testing (ASTM), 100 Barr Harbor Drive, PO Box C700, West Conshohocken, PA 19428–2959; *http://www.astm.org*. This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51.

(g) Before mining is discontinued in an entry or room that is advanced more than 20 feet from the inby rib, a crosscut shall be made or line brattice shall be installed and maintained to provide adequate ventilation. When conditions such as methane liberation warrant a distance less than 20 feet, the approved ventilation plan shall specify the location of such rooms or entries and the maximum distance they will be developed before a crosscut is made or line brattice is installed.

(h) All ventilation controls, including seals, shall be maintained to serve the purpose for which they were built.

[61 FR 9829, Mar. 11, 1996; 61 FR 20877, May 8, 1996; 61 FR 26442, May 28, 1996; 61 FR 29288, 29289, June 10, 1996, as amended at 67 FR 38386, June 4, 2002; 71 FR 16668, Apr. 3, 2006]

§ 75.334 Worked-out areas and areas where pillars are being recovered.

(a) Worked-out areas where no pillars have been recovered shall be—

(1) Ventilated so that methane-air mixtures and other gases, dusts, and fumes from throughout the worked-out areas are continuously diluted and routed into a return air course or to the surface of the mine; or

(2) Sealed.

(b)(1) During pillar recovery a bleeder system shall be used to control the air passing through the area and to continuously dilute and move methane-air mixtures and other gases, dusts, and fumes from the worked-out area away from active workings and into a return air course or to the surface of the mine.

(2) After pillar recovery a bleeder system shall be maintained to provide ventilation to the worked-out area, or the area shall be sealed.

(c) The approved ventilation plan shall specify the following:

(1) The design and use of bleeder systems;

(2) The means to determine the effectiveness of bleeder systems;

(3) The means for adequately maintaining bleeder entries free of obstructions such as roof falls and standing water; and

(4) The location of ventilating devices such as regulators, stoppings and bleeder connectors used to control air movement through the worked-out area.

(d) If the bleeder system used does not continuously dilute and move methane-air mixtures and other gases, dusts, and fumes away from worked-out areas into a return air course or to the surface of the mine, or it cannot be determined by examinations or evaluations under § 75.364 that the bleeder system is working effectively, the worked-out area shall be sealed.

(e) Each mining system shall be designed so that each worked-out area can be sealed. The approved ventilation plan shall specify the location and the sequence of construction of proposed seals.

(f) In place of the requirements of paragraphs (a) and (b) of this section, for mines with a demonstrated history of spontaneous combustion, or that are located in a coal seam determined to be susceptible to spontaneous combustion, the approved ventilation plan shall specify the following:

(1) Measures to detect methane, carbon monoxide, and oxygen concentrations during and after pillar recovery, and in worked-out areas where no pillars have been recovered, to determine if the areas must be ventilated or sealed.

(2) Actions that will be taken to protect miners from the hazards of spontaneous combustion.

(3) If a bleeder system will not be used, the methods that will be used to control spontaneous combustion, accumulations of methane-air mixtures, and other gases, dusts, and fumes in the worked-out area.

§ 75.335 Seal requirements.

Seals shall be designed, constructed, and maintained to protect miners from hazards related to sealed areas. Seal designs and the installation of each seal shall be approved in accordance with § 75.336.

(a) *Seal strength requirements.* Seals constructed on or after May 22, 2007 shall be designed, constructed, and maintained to withstand—

(1) 50 psi overpressure when the atmosphere in the sealed area is monitored and maintained inert in accordance with paragraph (b) of this section;

(2) 120 psi overpressure if the atmosphere is not monitored, and is not maintained inert, and the conditions in paragraphs (a)(3)(i) through (iii) of this section are not present; or

(3) An overpressure greater than 120 psi if the atmosphere is not monitored and is not maintained inert and;

(i) The atmosphere in the area to be sealed is likely to contain homogeneous mixtures of methane between 4.5 percent and 17.0 percent and oxygen exceeding 17.0 percent throughout the entire area;

(ii) Pressure piling is likely due to opening restrictions near the proposed seal area; or

(iii) Other conditions are encountered, such as the likelihood of a detonation in the proposed seal area.

(iv) Where the conditions in paragraphs (a)(3)(i), (ii), or (iii) of this section are encountered, the operator must revise the ventilation plan to be submitted to the District Manager to address the potential hazards. The plan shall include seal strength sufficient to address the conditions.

(b) *Sampling and monitoring requirements.* Effective May 22, 2007, a certified person as defined in § 75.100 shall monitor atmospheres of sealed areas. For seals constructed prior to May 22, 2007 and for seals designed for 50 psi overpressure, mine operators shall develop and follow a protocol to monitor methane and oxygen concentrations, and to maintain an inert atmosphere in the sealed area. The protocol shall be approved in the ventilation plan.

(1) A certified person shall sample atmospheres of sealed areas weekly when the barometric pressure is decreasing or the seal is outgassing. At least one sample shall be taken at each set of seals. If a seal is ingassing during the weekly examination, a sample shall be collected during the next weekly examination. If the seal is ingassing during the second consecutive weekly examination, the operator shall examine that seal daily until the seal is outgassing, unless the seal does not outgas. In this case, an alternative plan needs to be developed and submitted to the District Manager. The District Manager may approve different sampling frequencies and locations in the ventilation plan, or approve the use of atmospheric monitoring systems in lieu of weekly sampling. The mine operator shall revise the protocol, if repeated sampling indicates that a seal is not likely to outgas.

(2) Certified persons conducting sampling shall be trained in the sampling procedures included in the protocol, as provided by paragraph (b)(5) of this section, before they conduct sampling, and annually thereafter. The mine operator must certify the date and content of training provided certified persons and retain each certification for one year.

(3) The atmosphere shall be considered inert when—

(i) The oxygen concentration is less than 10.0 percent;

(ii) The methane concentration is less than 3.0 percent; or

(iii) The methane concentration is greater than 20.0 percent.

(4) When oxygen concentrations are 10.0 percent or greater and methane concentrations are from 3.0 percent to 20.0 percent in a sealed area, the mine operator shall take two additional gas samples at one-hour intervals. If the two additional gas samples are from 3.0 percent to 20.0 percent and oxygen is 10.0 percent or greater—